Although not the focus of the study, Talmud and colleagues[9] show that even a diagnosis of a major mutation in familial hypercholesterolaemia does not always result in appropriate LDL-C treatment; the mean LDL-C concentration after treatment was only reduced by 22%, to 5·49 mmol/L (recommended goal <2·6 mmol/L). Even in the mutation-negative cohort, with lower starting LDL-C concentrations, the mean post-treatment concentration was 4·22 mmol/L, a reduction of only 28%. These results, from patients attending specialised lipid centres, are a cause for concern, especially as highly effective statins that lower LDL-C in patients with familial hypercholesterolaemia by 50% are now generic and inexpensive. Randomised trials have shown that the more LDL-C is lowered, the lower the risk for coronary artery disease. Findings from Mendelian randomisation studies[10] show that polymorphisms associated with lower LDL-C starting presumably in childhood are associated with a far greater reduction in the risk of coronary heart disease than is reported in drug trials beginning later in life, after atherosclerosis has already developed.

Thus all people, irrespective of age, with raised LDL-C concentrations in whom no secondary cause can be identified, especially if they have a family history of premature coronary artery disease, should be treated for presumptive familial hypercholesterolaemia according to clinical criteria.[5] To add the complexity of SNP analysis for minor genes and eliminate cascade LDL-C and clinical testing of relatives of patients with polygenic familial hypercholesterolaemia does not seem to be warranted, and could even be diversionary.

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Health in Europe—a view from across the Atlantic

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From a North American perspective, it is irresistible to extend cross-national comparisons from The *Lancet* Series on Health in Europe to include the USA, particularly in light of a 2013 US National Research Council and Institute of Medicine (NRC/IOM) report[1] showing that, for most health indicators and all ages to 75 years, the USA ranks worst or among the worst of 17 similarly affluent countries (including 15 in western Europe). The US health disadvantage was noted across diverse indicators including life expectancy (figure); prematurity and low birthweight; infant, child, and maternal mortality; incidence of and mortality from

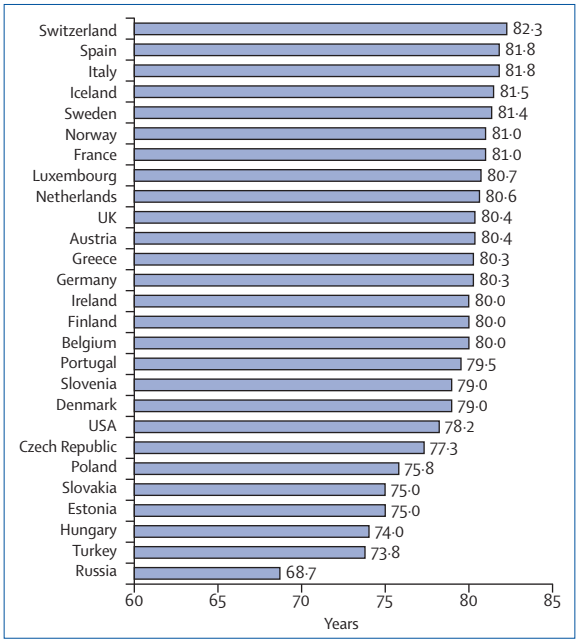

Figure: **Life expectancy at birth in Europe and the USA, 2009**
Source: Organisation for Economic Co-operation and Development.[2]

diabetes, cardiovascular disease, respiratory disease, infectious disease, and unintentional and intentional injury; and disability. If the USA had been included in the Series, it would have ranked close to the eastern European countries on most indicators.[2]

The panel that undertook the NRC/IOM study[1] faced challenges shared by the authors of this Series, including a wide array of data for many indicators from many sources, data comparability limitations, lagged health effects of upstream social policies, and difficulties in identifying discrete factors that contribute to cross-national health differences when comparing economically, politically, and culturally distinct and evolving nations. The panel concluded that there were no simple explanations and many factors were probably implicated.

An obvious difference from western Europe is the absence of universal access to medical care in the USA. The fragmentation, specialist orientation, and primary care weakness noted in the Series by Bernd Rechel and colleagues[3] as likely contributors to suboptimum health in the Commonwealth of Independent States may also have contributed to some poor US outcomes. Medical care deficiencies alone, however, cannot explain the pervasive US disadvantage across such disparate indicators. Obesity prevalence undoubtedly contributes to the high prevalence of, and mortality from, non-communicable diseases, but cannot explain high rates of HIV and sexually transmitted infections, adverse birth outcomes, gun violence, and overall injury incidence and mortality in the USA. Furthermore, studies have shown these health disadvantages even when examining only individuals of normal weight.[4] The large ethnic and socioeconomic inequalities in health[5] in the USA do not wholly explain the findings—disadvantages are evident when examining only white[6] or affluent populations.[4,7,8]

In the Series, Johan Mackenbach and colleagues[9] conclude that the steadily increasing life expectancy in western Europe during the past four decades is a result of "combined effects of economic growth, improved health care, and successful health policies (eg, tobacco control and road traffic safety)". Although the USA and western Europe are not hugely dissimilar in terms of overall economic growth,[10] the USA has higher rates of poverty, especially child poverty, lower social mobility,[1] and greater income inequality.[11] Notwithstanding debates about causality,[12] income inequality has been repeatedly and strongly linked with worse population health,[13] and, along with poverty and low social mobility, might plausibly (through varied and complex pathways) be important in the US health disadvantage. The USA has been ahead of western Europe on tobacco control[14,15] but probably not, at least recently, on transportation safety measures, and US rates of traffic deaths are substantially higher than are those in western Europe.[1] The NRC/IOM panel recommended investigation of these potential explanations and other factors, including low participation in formal child care and preschool, weak social protections overall, and, perhaps more fundamentally as a driver of relevant policies and behaviours, a deeply rooted culture that values individualism more than social solidarity.

I hope the stark findings of the NRC/IOM report will prompt greater openness in the USA to approaches that have been associated with better results elsewhere. And as eastern and western European policy makers plan their health strategies in the face of severe economic constraints, let the shorter, sicker lives in the USA sound a cautionary note for those who would dismantle universal care systems and tear other holes in what appear, from this side of the Atlantic, to be precious social safety nets.

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Johan Mackenbach, one of the Series authors, and I were members of the NRC/IOM panel on understanding cross-national health differences among high-income countries. I declare that I have no conflicts of interest.

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